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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,814	10/24/2003	Ke Yu Chang	1087-PROT0004	1090

34456 7590 02/08/2006

TOLER & LARSON & ABEL L.L.P.
5000 PLAZA ON THE LAKE STE 265
AUSTIN, TX 78746

EXAMINER	
RAHMJOO, MANUCHER	

ART UNIT	PAPER NUMBER
2676	

DATE MAILED: 02/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/693,814	CHANG, KE YU	
	Examiner	Art Unit	
	Mike Rahmjoo	2676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) *29 and 30* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election of group I corresponding to claims 1- 28 in the reply filed on 12/23/2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1- 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Tamama et al (US PAP 2002/ 0135683), hereinafter, Tamama.

As per claims 1, 12 and 28 and as to the broadest reasonable interpretation by examiner, Tamama teaches a lumina filter path coupled to receive blocks of RGB formatted data and generate a block of lumina data see for example figures 1c, 14 and 27 and paragraph [0370] for the generation of the lumina data; and a chroma filter path coupled to receive the blocks of RGB formatted data and generate blocks of chroma data see for example figures 1c, 14 and 27 and paragraph [0370] for the generation of

the chroma data; wherein the lumina filter path and the chroma filter path operate in parallel see for example figures 1c, 14 and 27 and paragraph [0370] for the filter paths operating in parallel.

As per claim 2 Tamama teaches the lumina filter path includes an interpolation filter and a RGB to Y conversion see for example figure 14 and paragraph [0370] for the interpolation module (block 1406) and RGB to Y conversion (1412).

As per claim 3 Tamama teaches the interpolation filter includes a 5- tap vertical filter and a 5- tap horizontal filter see for example figures 30 and 35 and paragraph [0325] for K tap filtering and paragraph [0380] for 5 tap interpolation.

As per claim 4 Tamama teaches gamma correction see for example paragraphs [0051- 52] and figures 1c, 14 and 27 for the gamma correction.

As per claim 5 Tamama teaches an edge enhancement filter see for example paragraph [0110] and figures 1c, 14 and 27 for the edge enhancement.

As per claim 6 Tamama teaches a spatial filter see for example paragraph [0143] for spatial filtering.

As per claim 7 Tamama teaches the chroma filter path includes an interpolation filter and an RGB to UV conversion see for example paragraph [0132] and figures 1c, 14 and 27.

As per claim 8 Tamama broadly teaches the interpolation filter includes a 7- tap vertical and 7- tap horizontal filter see for example figures 30 and 35 and paragraph [0325] for K tap filtering.

As per claim 9 Tamama teaches the chroma filter path further includes color correction see for example paragraph [0099] and figures 1c and 27.

As per claim 10 Tamama teaches the chroma filter path further includes gamma correction see for example paragraph [0132] and figure 27 for the gamma correction.

As per claim 11 Tamama teaches the chroma filter path further includes core chroma correction see for example paragraphs [0106- 107 and 109] and fig. 27 for the color correction broadly corresponding to core chroma correction.

As per claim 13 Tamama teaches receiving a block of RGB video data includes receiving a 24 by 24 block of pixel data see for example paragraphs [0334- 0335] and claim 6 for the M by N pixel image.

As per claim 14 Tamama teaches receiving a block of RGB video data includes adjusting the numerical values in the block for black clamp values see for example paragraphs [0064-0065] and fig. 3a.

As per claim 15 Tamama teaches receiving a block of RGB video data includes performing a white balance operation on the block of RGB video data see for example paragraphs [0074] and [0078] for white balance.

As per claim 16 Tamama teaches filtering the block of RGB video data through a lumina filter path includes interpolating the RGB data to form red, green and blue color planes with interpolated values associated with the appropriate color in each pixel location of the red, green and blue color planes see for example paragraph [0109] for the interpolation and color correction in RGB color space.

As per claim 17 Tamama teaches generating the lumina Y data block from the

red, green and blue color planes see for example paragraph [0370] and figures 1c, 14 and 27 for the generation of lumina data from RGB.

As per claim 18 Tamama teaches performing a gamma correction on the lumina Y data block see for example paragraph [0370] and figures 1c, 14 and 27 for gamma correction on the lumina data.

As per claim 19 Tamama teaches performing an edge enhancement on the lumina Y data block see for example paragraphs [0111] and [0114] for the edge enhancement on the lumina data.

As per claim 20 Tamama teaches spatially filtering the lumina Y data block see for example paragraph [0071] for adjustment of the brightness of each pixel as a function for its spatial location.

As per claim 21 Tamama teaches filtering the block of RGB video data through a chroma filter path includes interpolating the RGB data to form red, green and blue color planes with interpolated values associated with the appropriate color in each pixel location of the red, green and blue color planes see for example figures 28- 38 for interpolating the RGB data to form red, green and blue color planes with interpolated values associated with the appropriate color in each pixel location of the red, green and blue color planes.

As per claim 22 Tamama teaches interpolating the RGB data includes applying a vertical filter and applying a horizontal filter to the RGB video data block see for example paragraphs [0370] and [0374] for the application of the vertical and horizontal filters to the RGB color data.

As per claim 23 Tamama broadly teaches the vertical filter and the horizontal filter each include a 7-tap filter see for example paragraphs example figures 30 and 35 and paragraph [0325] for K tap filtering.

As per claim 24 Tamama teaches determining U and V data blocks from the red, green and blue color planes see for example paragraphs [0132] and [0370] and figures 1c, 14 and 27 for the UV data from RGB data.

As per claim 25 Tamama teaches performing a color correction on the red, green and blue color planes see for example paragraphs [0099] and figures 1c and 27 for the color correction.

As per claim 26 Tamama teaches performing a gamma correction on each of the red, green and blue color planes see for example paragraph [0132] and figure 27 for the gamma correction.

As per claim 27 Tamama teaches performing a core chroma correction on the U and V data blocks see for example paragraph [0106- 107 and 109] and fig. 27 for the color correction broadly corresponding to core chroma correction.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US PAP 2002/ 0033900 and US Patent 6,304,269, 6,628,330, 6,137,952, and 6,256,068.

US PAP 2003/ 0065748 teaches a lumina filter path coupled to receive blocks of RGB formatted data and generate a block of lumina data see for example figures 1 and 8 and paragraphs [0056-0057] for the generation of the lumina data; and a chroma filter path coupled to receive the blocks of RGB formatted data and generate blocks of chroma data see for example figures 1 and 8 and paragraphs [0056-0057] for the generation of the chroma data; wherein the lumina filter path and the chroma filter path operate in parallel see for example figures 1 and 8 for the filter paths operating in parallel.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mike Rahmjoo whose telephone number is (571) 272-7789. The examiner can normally be reached on 6:30- 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on (571) 272- 7778. The fax phone number for the organization where this application or proceeding is assigned is (571) 273- 8300 for regular communications and After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.

Mike Rahmjoo

MATTHEW C. BELLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

January 30, 2006